NASA SP-7011 (384)
January 1994

p. 245

AEROSPACE MEDICINE AND BIOLOGY

1993 CUMULATIVE INDEX

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NASA SP-7011 (384)
January 1994

AEROSPACE MEDICINE AND BIOLOGY

1993 CUMULATIVE INDEX

National Aeronautics and Space Administration
Scientific and Technical Information Program
Washington, DC 1994

SUPPLEMENTS COVERED IN THIS ISSUE

Document	*Page Range*	*Date*	*Coverage*
NASA SP-7011(372)	1-36	February 1993	January 1993
NASA SP-7011(373)	37-72	March 1993	February 1993
NASA SP-7011(374)	73-110	April 1993	March 1993
NASA SP-7011(375)	111-150	May 1993	April 1993
NASA SP-7011(376)	151-198	June 1993	May 1993
NASA SP-7011(377)	199-238	July 1993	June 1993
NASA SP-7011(378)	239-270	August 1993	July 1993
NASA SP-7011(379)	271-322	September 1993	August 1993
NASA SP-7011(380)	323-356	October 1993	September 1993
NASA SP-7011(381)	357-374	November 1993	October 1993
NASA SP-7011(382)	375-396	December 1993	November 1993
NASA SP-7011(383)	397-412	January 1994	December 1993

This publication was prepared by the NASA Center for AeroSpace Information,
800 Elkridge Landing Road, Linthicum Heights, MD 21090-2934, (301) 621-0390.

INTRODUCTION

WHAT THIS CUMULATIVE INDEX IS

This publication is a cumulative index to the abstracts contained in NASA SP-7011 (372) through NASA SP-7011 (383) of *Aerospace Medicine and Biology: A Continuing Bibliography.* NASA SP-7011, and by means of supplements, serves as a current abstracting and announcement journal for references on bioscience and biotechnology. It has been compiled through the cooperative efforts of the American Institute of Aeronautics and Astronautics (AIAA), and the National Aeronautics and Space Administration (NASA). Entries prepared by the two contributing organizations are identified as follows:

1. NASA entries by their *STAR* accession numbers (N93-10000).
2. AIAA entries by their *IAA* accession numbers (A93-10000).

HOW THIS CUMULATIVE INDEX IS ORGANIZED

This Cumulative Index includes a subject, personal author, corporate source, foreign technology, contract number, report number, and accession number index.

HOW TO USE THE SUBJECT INDEX

Two types of cross-references appear in the subject index:

1. Use (U) references indicate that the subject term is not "postable," i.e., not a valid term, and that the following term or terms are used instead. For example:

   DOSE
   U DOSAGE
   AIRLINERS
   U COMMERCIAL AIRCRAFT
   U PASSENGER AIRCRAFT

2. Narrower Term (NT) references refer the user to more specific headings in the same subject area, under which additional material on the subject may be found. For example:

   FATIGUE (BIOLOGY)
   NT AUDITORY FATIGUE
   NT FLIGHT FATIGUE
   NT MUSCULAR FATIGUE

In addition, a searcher may use the title or title and title extension in the index to narrow further his quest for particular items; this is because subject terms may include documents on different aspects of the same subject term. For example:

BIOLOGICAL EFFECT
Vibratory force effect upon biological systems, particularly human organism.
Biological effect of cosmic and solar radiations on human body at high altitudes.

HOW TO USE THE PERSONAL AUTHOR INDEX

All personal authors used in the abstract section citations in the individual supplements appear in the index. Differences in translation schemes may require multiple searching on the index for variants of an author's name. For example:

EMELIANOV, M. D.
and
YEMELYANOV, M. D.

HOW TO USE THE CORPORATE SOURCE INDEX

The corporate source index entries are abridged versions of the corporate sources used in the abstract section citations in the individual supplements. The corporate source supplementary (organizational component) does not appear in the index. For example:

BOEING CO., SEATTLE, WASH. MILITARY AIRCRAFT SYSTEMS DIV. (Source citation entry)
BOEING CO., SEATTLE, WASH. (Source index entry)

HOW TO USE THE FOREIGN TECHNOLOGY INDEX

The foreign technology index identifies research performed outside of the United States. Listings in this index are arranged alphabetically by country of intellectual origin. For example:

CHINA, PEOPLE'S REPUBLIC OF

HOW TO USE THE CONTRACT NUMBER INDEX

All contract numbers that are identified in the abstract section citations in the individual supplements appear in this index. Changes by agencies in the style in which contract numbers are presented may require multiple searching for variants. For example:

AF 33(615)-71-C-1758
F33615-71-C-1758

HOW TO USE THE REPORT NUMBER INDEX

All report numbers that have been assigned by the corporate source, monitoring agency or cataloging activity appear in this index. Variations in cataloging may result in different report number series. For example:

TP-924
ONERA-TP-924

HOW TO USE THE ACCESSION NUMBER INDEX

All documents that were acquired, indexed, and announced in STAR during the year which have been assigned a unique identification number appear in this index. For example:

N93-10001
N93-10002

IDENTIFICATION OF DESIRED SUPPLEMENT

The abstract and descriptive cataloging for any accession number selected from the indexes may be found in the appropriate supplement. The page number range of each supplement appears on page ii of this index. Once the range of page numbers containing the selected accession number is located in the second column, the desired supplement number will be found in the first column. For example:

Page 333 will be found in Supplement 380

AVAILABILITY OF DOCUMENTS

Information concerning the availability of documents announced in *Aerospace Medicine & Biology* is found in the Introduction to the most currently issued supplement.

FEDERAL DEPOSITORY LIBRARY PROGRAM

In order to provide the general public with greater access to U.S. Government publications, Congress established the Federal Depository Library Program under the Government Printing Office (GPO), with 53 regional depositories responsible for permanent retention of material, inter-library loan, and reference services. At least one copy of nearly every NASA and NASA-sponsored publication, either in printed or microfiche format, is received and retained by the 53 regional depositories. A list of the regional GPO libraries, arranged alphabetically by state, appears on the inside back cover. These libraries are *not* sales outlets. A local library can contact a Regional Depository to help locate specific reports, or direct contact may be made by an individual.

PUBLIC COLLECTIONS OF NASA DOCUMENTS

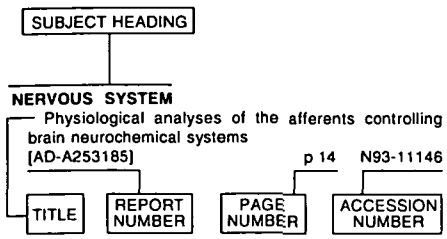
An extensive collection of NASA and NASA-sponsored publications is maintained by the British Library Lending Division, Boston Spa, Wetherby, Yorkshire, England for public access. The British Library Lending Division also has available many of the non-NASA publications cited in *STAR*. European requesters may purchase facsimile copy or microfiche of NASA and NASA-sponsored documents, those identified by both the symbols # and * from ESA–Information Retrieval Service European Space Agency, 8-10 rue Mario-Nikis, 75738 CEDEX 15, France.

TABLE OF CONTENTS

AEROSPACE MEDICINE AND BIOLOGY / *A Continuing Bibliography*
1993 Cumulative Index

January 1994

Typical Subject Index Listing



The subject heading is a key to the subject content of the document. The title is used to provide a description of the subject matter. When the title is insufficiently descriptive of document content, a title extension is added, separated from the title by three hyphens. The accession number and the page number are included in each entry to assist the user in locating the abstract in the abstract section. If applicable, a report number is also included as an aid in identifying the document. Under any one subject heading, the accession numbers are arranged in sequence.

A

B

BIOLOGICAL EVOLUTION

BIOLOGICAL MODELS (MATHEMATICS)

BIOLOGY

BIOLUMINESCENCE

BIOMAGNETISM

BIOMASS

BIOMASS ENERGY PRODUCTION

BIOMEDICAL DATA

BIOMETRICS

BIONICS

BIOPHYSICS

C

D

E

F

G

H

I

M

N

O

P

PHYSIOLOGICAL FACTORS

PHYSIOLOGICAL RESPONSES

PHYSIOLOGICAL TESTS

PHYSIOLOGY

PHYTOPLANKTON

PHYTOTRONS

PILOT ERROR

PILOT PERFORMANCE

Q

R

S

T

U

V

W

X

Y

Z

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1993 Cumulative Index

January 1994

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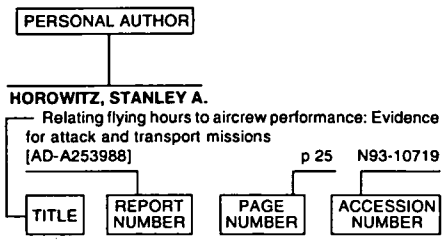

Listings in this index are arranged alphabetically by personal author. The title of the document is used to provide a brief description of the subject matter. The report number helps to indicate the type of document (e.g., NASA report, translation, NASA contractor report). The page and accession numbers are located beneath and to the right of the title. Under any one author's name the accession numbers are arranged in sequence.

A

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D

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G

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W

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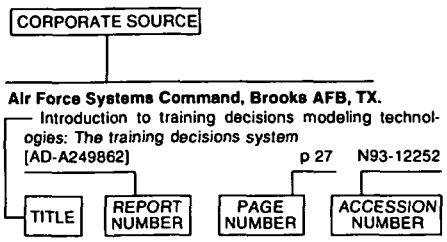
Y

Z

Typical Corporate Source Index Listing



Listings in this index are arranged alphabetically by corporate source. The title of the document is used to provide a brief description of the subject matter. The page number and the accession number are included in each entry to assist the user in locating the abstract in the abstract section. If applicable, a report number is also included as an aid in identifying the document.

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I

J

K

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M

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National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

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R

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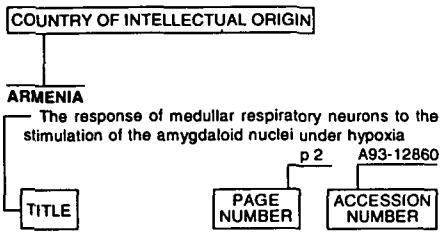
AEROSPACE MEDICINE AND BIOLOGY / *A Continuing Bibliography*
1993 Cumulative Index

January 1994

Typical Foreign Technology *Index Listing*



Listings in this index are arranged alphabetically by country of intellectual origin. The title of the document is used to provide a brief description of the subject matter. The page number and accession number are included in each entry to assist the user in locating the abstract in the abstract section. If applicable, a report number is also included as an aid in identifying the document.

FOREIGN

D

F

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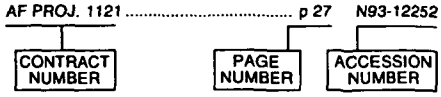
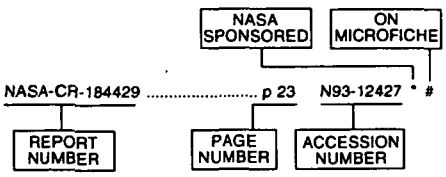
Typical Contract Number Index Listing



Listings in this index are arranged alphanumerically by contract number. Under each contract number the accession numbers denoting documents that have been produced as a result of research done under the contract are shown. The accession number denotes the number by which the citation is identified in the abstract section. Preceding the accession number is the page number on which the citation may be found.

AEROSPACE MEDICINE AND BIOLOGY / *A Continuing Bibliography* January 1994
1993 Cumulative Index

Typical Report Number Index Listing



Listings in this index are arranged alphanumerically by report number. The page number indicates the page on which the citation is located. The accession number denotes the number by which the citation is identified. An asterisk (*) indicates that the item is a NASA report. A pound sign (#) indicates that the item is available on microfiche.

AEROSPACE MEDICINE AND BIOLOGY / *A Continuing Bibliography*
1993 Cumulative Index

January 1994

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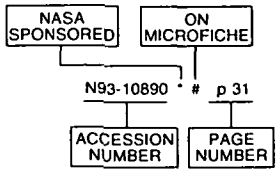

Listings in this index are arranged alphanumerically by accession number. The page number indicates the page on which the citation is located. The accession number denotes the number by which the citation is identified. An asterisk (*) indicates that the item is a NASA report. A pound sign (#) indicates that the item is available on microfiche.

SPECIAL NOTICE

The abstract sections of the monthly supplements of *Aerospace Medicine and Biology* can be bound separately. Individual abstracts can be located readily by means of the page numbers given at each entry, e.g., p 361 N93-32237. To assist the user in binding Supplements SP-7011 (372) through SP-7011 (383), a title page is included in this Cumulative Index.

AEROSPACE MEDICINE AND BIOLOGY

A CONTINUING BIBLIOGRAPHY

Abstracts

January – December 1993

TABLE OF CONTENTS

REPORT DOCUMENT PAGE

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
NASA SP-7011 (384)		

4. Title and Subtitle	5. Report Date
Aerospace Medicine and Biology A Cumulative Index to the 1993 Issues	January 1994
	6. Performing Organization Code JTT
7. Author(s)	8. Performing Organization Report No.
	10. Work Unit No.
9. Performing Organization Name and Address NASA Scientific and Technical Information Program	11. Contract or Grant No.
12. Sponsoring Agency Name and Address National Aeronautics and Space Administration Washington, DC 20546-0001	13. Type of Report and Period Covered Special Publication
	14. Sponsoring Agency Code

15. Supplementary Notes

16. Abstract

This publication is a cumulative index to the abstracts contained in the Supplements 372 through 383 of *Aerospace Medicine and Biology: A Continuing Bibliography*. It includes seven indexes: subject, personal author, corporate source, foreign technology, contract number, report number, and accession number.

17. Key Words (Suggested by Author(s))	18. Distribution Statement
Aerospace Medicine Bibliographies Biological Effects	Unclassified - Unlimited Subject Category - 52

19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages	22. Price
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